

## B.3 python\_ta

PythonTA is a Python program that analyses Python code to help students find and fix common coding and style errors. Unlike testing libraries like doctest or pytest, PythonTA does not actually run your code. Instead, it analyzes the program text directly, looking for common patterns of code that often lead to errors.<sup>1</sup>

<sup>1</sup> PyCharm does something very similar, which is why you'll see red or yellow highlighted text in your Python files as you're working, before running the file.

### *Running PythonTA*

To run PythonTA on a Python file, put the following code at the bottom of the file you want to check:

```
if __name__ == '__main__':  
    import python_ta  
    python_ta.check_all()
```

When you run this file, you'll see a report open up in your web browser that shows any errors that PythonTA detected. These errors are divided into two broad categories:

- **Code Errors or Forbidden Usage:** you should fix these immediately, as they point out logical errors in your code, or a part of your code that is using some feature that is not allowed for your current assignment.
- **Style or Convention Errors:** these identify ways to improve the formatting and design of your Python code. Fixing these is a lower priority, but you should still fix them before your final submission.<sup>2</sup>

<sup>2</sup> Tip: In PyCharm, you can go to the menu Code -> Reformat File... to automatically fix common style errors in your current file.

We

recommend running PythonTA regularly as you're working on an assignment, as it can be a useful way to check your work and improve the quality of your code. If you're ever stuck, try taking a break and running PythonTA and fixing any errors it finds for you! This is a way to develop good programming habits and style, which will come in handy in this course (and all future courses).

### *Cleaning up*

When you run PythonTA, it generates a new report file called `pyta_report.html` in the same folder as the file you're checking. After you're done running PythonTA, you can safely delete this report file.

# *Checking contracts using PythonTA*

CSC110 Course Notes Home